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Post Office Box 6788  
Fort Davis Station  
Washington, D. C. 20020

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Attention: 

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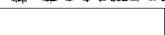
Subject : Request for Proposal No. RD-7-66

Gentlemen:

This office has a requirement for a program in the area of Image Analysis. Your review of the enclosed "RESEARCH AND DEVELOPMENT PROGRAM OBJECTIVES - IMAGE ANALYSIS PROGRAM" is requested and a technical proposal and cost and price quotation on this program is solicited.

A pre-proposal conference will be held in Washington, D. C. on 2 November 1965 to discuss the requirements of this program. In the event that you are interested in having representatives of your firm attend this meeting you may make arrangements through  who can be reached by calling Area Code  Individuals selected by you to attend this meeting must have a current clearance of SECRET from this organization. Attendance at the meeting will, of course, be at your expense and will not be chargeable directly to your contract(s) with this organization.

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Your technical proposal and cost quotation should be submitted no later than 1 December 1965 unless a later date is requested of and authorized by  It is requested that your proposal be accompanied by a cost analysis breakdown to assist in evaluating your quotation. This cost breakdown may be prepared on Form DD-633 or a substantially similar form.

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The enclosed requirements are classified SECRET. Government interest may be shown, however, association of this Government activity with this request is classified SECRET. In this connection, knowledge of the identity of the particular Government activity which the undersigned represents must be restricted to the least number of persons

## NOTICE

This material contains information affecting the national defense of the United States within the meaning of the espionage laws, Title 18, USC, Secs. 793 and 794, the transmission or revelation of which in any manner to an unauthorized person is prohibited by law.

**SECRET**

GROUP 1  
Excluded from automatic  
downgrading and  
declassification

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possible and then only to those who have been authorized in writing by this activity to have access to classified information. Such identity shall be disclosed only on a verbal basis and shall never appear in writing in any of your documents. Any correspondence initiated by you should not make reference therein to the undersigned. "Secrecy Agreements" should be signed by any individual in your company who will have knowledge of this request.

If it is desired to proceed with this contemplated program with your company, the authorization will be effected by the issuance of the appropriate type of Government Contract.

At the time of submitting the requested proposal(s) please return this letter, together with all enclosures, to the undersigned at the address stipulated above, Attention:  If you do not elect to submit a proposal, this letter and all correspondence should also be returned.

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Very truly yours,

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Contracting Officer

**Enclosures:**

Development Objectives  
(2 copies)

**Distribution:**

- Original - Addressee
- 1 - Reg. Office/NPIC
- 1 - NPIC/P&DS
- 1 - Official File (RFP-RD-7-66)
- 1 - NPIC File

LB/SS/NPIC:  (13 Oct 65)

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22 September 1965

RESEARCH AND DEVELOPMENT PROGRAM OBJECTIVES

## IMAGE ANALYSIS PROGRAM

1. INTRODUCTION. This document conveys the background, concept and requirements of a government-sponsored research and development program in the field of image analysis as it relates to imagery exploitation processes.

1.1. Background. Lack of knowledge concerning the basic nature of images is handicapping the exploitation effort. A number of important questions about images, if answered, would provide the keys to improving vastly the information obtainable from the images. Representative examples of these unknowns are: (1) Comprehensive, rigorous descriptions of image formation, recording and transmitting processes. (2) Comprehensive evaluations of imaging systems as a means of remote sensing of the real world. (3) Means of compensating for image degradation caused by acquisition, reproduction, transmitting and viewing processes. A planned study effort into these areas will provide an insight into the unknowns resulting in greater accuracy and rapid analysis of the image. The Government desires to achieve the most advanced level of knowledge possible concerning images as a means of communicating intelligence about the real world. The requirements set forth would call for a comprehensive literature search while engaged in the studies.

1.2. Concept. The contracted organization selected to accomplish this research must be capable of independent management of the program. The contracted organization must also: (1) provide or utilize leading technical authorities in the field; (2) be responsive to government requirements; (3) be aggressive and effective in achieving the objectives; and (4) furnish forthright technical guidance to the Government. Representatives of the Government involved in this program will maintain an open mind in evaluating any new concepts which, if successfully pursued, would add to the store of relevant knowledge and advance the state-of-the-art. Organizations engaged in these technical developments are encouraged to present new ideas which they believe will advance the program. It is the intention of the Government to permit freedom for imagination and creativity.

1.3. Scope. The program will be planned on the basis of a five-year term. This paper defines only initial objectives; proposals in response to them should contain an evaluation of their significance as related to cost and time. Careful utilization of reputable industrial management will be required, as well as obtaining maximum efficiency in all technological aspects.

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2. ADMINISTRATION. The Government will retain ultimate control of the program. Objectives, costs, priorities, sub-contractors and consultants involved in the program come under the purview of the Government, and approval must be obtained before these factors are employed.

2.1. Projects. Each project under this program will be divided into major accomplishment/cost phases to facilitate government review and control.

2.2. Contract Information.

- 2.2.1. The contractor is expected to provide competent and co-operative administrative services; he will be vested with authority to control the direction and degree of technical effort within the bounds of estimated costs.
- 2.2.2. The contractor shall be responsible for the work performance of his sub-contractors.
- 2.2.3. The Contracting Officer of the Government will designate a Technical Representative to authorize certain specific development efforts of the contractor. Such authorization shall be given in the form of written work orders either in its original form or to confirm an oral authorization.
- 2.2.4. Certain written progress reports will be required on a regular basis by the Technical Representative to include status of project, money expended, and money required to complete the projects. In addition, the contractor will be expected to provide the Technical Representative written reports concerning research and development efforts when deemed advisable by the Government, as well as verbal elaborations as may be desired by the Technical Representative or Contracting Officer.

3. TECHNICAL REQUIREMENTS. Within the context of the broad objectives set forth in this paper the technical requirements are:

- 3.1. Consultation to the Government in the image analysis research field.
- 3.2. Origination and establishment of future research goals.
- 3.3. Awareness of all commercial and non-profit research organizations working in this field. Possession of the current and historical knowledge in order to preclude duplication of effort and to maintain awareness of the state-of-the art.

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- 3.4. Studies of image formation to: (1) determine the effect of various spectral compositions of the exposing radiation; (2) determine the effect of reciprocity law failure; (3) determine the chemistry and method of application of the processing solutions. Studies in these areas should be limited to the duplicating of aerial photographic imagery, but not limited to conventional silver halide emulsions.
- 3.5. Studies in image evaluation and the development of hardware as a result of the knowledge gained. There will be a close relationship between this study and that of image formation.
- 3.6. Studies of image restoration. The restoration of degraded imagery is commensurate with the studies of image formation and evaluation. Particular techniques will include image integration and possibly the use of computer techniques to upgrade the imagery.

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